

REMARKS

Claims 1-16 are pending in the present application. The Office Action and cited references have been considered. Favorable reconsideration is respectfully requested.

Claims 1-7, 9-10 and 12 were rejected under 35 U.S.C. § 112, second paragraph. Applicant has amended each of the claims in order to overcome this rejection. Withdrawal thereof is respectfully requested.

Claims 1, 6, 8 and 13-16 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Stumer (US Patent Publication No. 2002/0064271) in view of Coffman et al. (US Patent No. 6,553,438). Claims 2-5 and 11-12 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Stumer in view of Coffman and further in view of Cota-Robles (US Patent Publication No. 2001/0056456). Claim 7 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Stumer in view of Coffman and further in view of Reeve et al. (US Patent No. 5,535,393). Claims 9-10 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Stumer in view of Coffman and further in view of Aucsmith et al. (US Patent No. 6,243,793). These rejections are respectfully traversed for the following reasons.

Claim 1 recites a method for utilizing shared resources in a computerized system at a command level, with

the aid of a processor for processing a plurality of commands and executing thereof using two or more of said shared resources, wherein at least one command of said plurality of commands comprises two or more sub-commands to be executed at different ones of said two or more shared resources for executing said at least one command, the method comprising steps of deriving, from each of said plurality of commands, subcommands respectively related to said shared resources, assigning priorities to said subcommands, forwarding said subcommands to one or more queues of the respective two or more shared resources, so that each of said queues comprises the subcommands related to a particular shared resource, executing the subcommands from said queues by said shared resources in an asynchronous manner, and according to said subcommand priorities by each of the shared resources thereby allowing to start execution of subcommands belonging to one command while subcommands of the other command are not yet all executed, thus increasing efficiency of processing. This is not taught, disclosed or made obvious by the prior art of record.

Applicant respectfully submits that neither of the cited references (Stumer, Coffman) describes or suggests asynchronous execution of sub-commands by shared resources of a computerized system. Both Stumer and Coffman discuss

routines and sub-routines, and neither of them describes asynchronous execution of operations at a command level. Namely, and for example, Coffman describes handling requests from a user for a specific number of elements/buffers, and a resource pool receives the elements/buffers back when the user has completed using the resources (col. 6, lines 22-39 of Coffman). Coffman mentions that the resource pool may be implemented in a software/hardware/firmware combination of those, but does not describe how the user's request can be divided and executed asynchronously by resources connected to the resource pool (col. 9, lines 39-67). Coffman states that the resources are given back to the pool upon the user has completed their use, and that the user holds control of the requested number of elements, but does not say/describe that these resources are used asynchronously (even by the user).

In view of the above, and contrary to the Examiner's opinion, Coffman does not describe that one command is divided into a number of subcommands, and that they are executed by different resources asynchronously. The use of elements/buffers by a user described by Coffman is very different than the automatic distribution of sub-commands between resources in a asynchronous manner, performed at a command level, as claimed in the amended claim 1.

Applicant respectfully submits that a) routine/subroutine level is not the same as the command/subcommand level; b) even at the level of routines/subroutines neither Stumer, nor Coffman describes dividing one routine into a number of subroutines and executing the subroutines of different routines asynchronously, according to priorities, by different resources which (resources) thus become shared by subroutines of other routines. For at least these reasons, Applicant respectfully submits that claim 1 is patentable over the prior art of record whether taken alone or in combination as proposed in the Office Action.

Claim 8 is believed to be patentable over the prior art of record at least for the same reasons discussed above with respect to claim 1. Claims 2-7 depend from claim 1, and claims 9-16 depend from claim 8. Applicant respectfully submits that these claims are patentable in and of themselves and as they depend from and include the recitations of claims 1 and 8 from which they depend.

Regarding the Aucsmith reference, and the Examiner's remark on paragraph 30 of the Office Action, Applicant respectfully submits that permission from a master processor to access shared resources is not equivalent to priority of performing a sub-command while handling the total command.

Priority of handling the sub-commands creates an asynchronous manner of processing and provides the possibility of handling, in parallel, sub-commands belonging to other commands.

Permission from a master processor as disclosed in Aucsmith does not bring the above-mentioned advantages. It should be noted that the role of master processor in the present patent application is definitely not assigning priorities to sub-commands, and not giving permissions to this. When a sub-command is executed according to the present invention, no permission from master or slave processor is required.

Moreover, any permission would disturb the asynchronous operation of shared resources. Therefore, Aucsmith positively teaches away from the invention. For at least these reasons, Applicant respectfully submits that claims 9 and 10 are patentable over the prior art of record, in addition to the reasons discussed above with respect to claim 1.

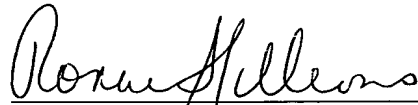
In view of the above amendments and remarks, Applicant respectfully requests reconsideration and withdrawal of the outstanding rejections of record. Applicant submits that the application is in condition for allowance and early notice to this effect is most earnestly solicited.

If the Examiner has any questions he is invited to contact the undersigned at 202-628-5197.

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Respectfully submitted,

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